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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,641	04/15/2004	Kevin Scott Smith	UNCC 02-020	9020

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EXAMINER
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GATES, ERIC ANDREW

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/825,641

Applicant(s)

SMITH ET AL.

Examiner

Eric A. Gates

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-5,7,9,11,13,14,16-20 and 22-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,9,11,13,14,16-20 and 22-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. This office action is in response to Applicant's amendment filed on 15 September 2006.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rivin (U.S. Patent 5,322,304).
4. Regarding claim 1, Rivin discloses an apparatus (see Figures 5-7) comprising: a first element 40 adapted to be coupled with a second element 48, the first element 40 comprising a structured surface 64 and the second element comprising a second surface 48, wherein the second surface 48 comprises a receiving surface 48b and wherein the structured surface 64 comprises a plurality of depressions (depressions in 64 for balls 46). See also column 10, lines 4-15.

The embodiment of Figures 5-7 in Rivin does not disclose that the depressions are machined. However, the embodiment of Figures 9-11 does teach the use of depressions 50f/50g that are machined into the conical shank portion 50d of tool holder body 50 for the purpose of retaining several balls 52 in a ring shape and eliminating the

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need for a cover 48. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the apparatus in Figures 5-7 of Rivin with the machined depressions in Figures 9-11 of Rivin in order to have depressions that are more permanent in nature than those in figures 5-7.

5. Regarding claim 3, the modified invention of Rivin discloses wherein the receiving surface 48b is substantially uniform.

6. Regarding claim 4, the modified invention of Rivin discloses wherein the structured surface 64 is adapted to be coupled with the receiving surface 48b.

7. Regarding claim 5, the modified invention of Rivin discloses wherein the structured surface 64 is engaged with the receiving surface 48b.

8. Regarding claim 7, the modified invention of Rivin discloses wherein the depressions (depressions in 64 for balls 46) are substantially hemispherical.

9. Regarding claim 9, the modified invention of Rivin discloses wherein the structured surface 64 further comprises a projection (conical tip).

10. Claims 11, 13-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rivin (U.S. Patent 5,322,304).

11. Regarding claim 11, Rivin discloses an apparatus comprising (see Figures 5-7) a first element 40 adapted to be coupled with a second element 48, the first element 40 comprising a first surface 64; and means for damping 64, the damping means disposed on the first surface 64 of the first element 40, wherein the second element 48 comprises

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a receiving surface 48b and wherein the damping means 64 comprises a plurality of depressions (depressions in 64 for balls 46) disposed in the first surface 64.

The embodiment of Figures 5-7 in Rivin does not disclose that the depressions are machined. However, the embodiment of Figures 9-11 does teach the use of depressions 50f/50g that are machined into the conical shank portion 50d of tool holder body 50 for the purpose of retaining several balls 52 in a ring shape and eliminating the need for a cover 48. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the apparatus in Figures 5-7 of Rivin with the machined depressions in Figures 9-11 of Rivin in order to have depressions that are more permanent in nature than those in figures 5-7.

12. Regarding claim 13, the modified invention of Rivin discloses wherein the first surface 64 is adapted to be coupled with the receiving surface 48b.

13. Regarding claim 14, the modified invention of Rivin discloses wherein the first surface 64 is disposed adjacent to the receiving surface 48b.

14. Regarding claim 16, the modified invention of Rivin discloses wherein the depressions (depressions in 64 for balls 46) are substantially hemispherical.

15. Claims 17-20 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rivin (U.S. Patent 5,322,304).

16. Regarding claim 17, Rivin discloses a method of damping vibrations in a first element 64 and a second element 48, wherein said method comprises: adapting a first element 64 to be coupled with a second element 48, the first element 64 comprising a

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structured surface 64 and the second element comprising a second surface 48b, the second surface comprising a receiving surface 48b and the structure surface comprising a plurality of depressions (depressions in 64 for balls 46).

The embodiment of Figures 5-7 in Rivin does not disclose that the depressions are machined. However, the embodiment of Figures 9-11 does teach the use of depressions 50f/50g that are machined into the conical shank portion 50d of tool holder body 50 for the purpose of retaining several balls 52 in a ring shape and eliminating the need for a cover 48. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the apparatus in Figures 5-7 of Rivin with the machined depressions in Figures 9-11 of Rivin in order to have depressions that are more permanent in nature than those in figures 5-7.

17. Regarding claim 18, the modified invention of Rivin discloses wherein the depressions (depressions in 64 for balls 46) are substantially hemispherical.

18. Regarding claim 19, the modified invention of Rivin discloses wherein the first surface 64 is disposed adjacent to the receiving surface 48b.

19. Regarding claim 20, the modified invention of Rivin discloses wherein the first surface 64 is adapted to be coupled with the receiving surface 48b.

20. Regarding claim 22, the modified invention of Rivin discloses wherein the structured surface 64 further comprises a projection (conical tip).

21. Regarding claim 23, the modified invention of Rivin discloses wherein the structured surface 64 is engaged with the receiving surface 48b.

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22. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rivin in view of Slocum et al. (U.S. Patent 6,280,126).

23. Regarding claims 10 and 21, the modified invention of Rivin discloses the invention substantially as claimed, except Rivin does not disclose wherein a viscous fluid is disposed on the structured surface.

Slocum et al. teaches the use of a viscous fluid (see Column 3, lines 63-65) on a structured surface 23 for the purpose of providing additional damping. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the structured surface of Rivin with the viscous fluid of Slocum et al. in order to provide additional damping to the elements.

24. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rivin.

25. Regarding claims 24 and 25, the modified invention of Rivin discloses the invention substantially as claimed, except Rivin does not disclose wherein the depressions are arranged in a non-uniform pattern. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have placed the depressions in a non-uniform pattern instead of equally spaced for the purpose of design choice, since it has been held that rearranging parts of an invention involves only routine skill in the art, and Applicant states in the instant specification on page 7, paragraph 31, that the depressions may be arranged in either a non-uniform or a uniform pattern.

***Response to Amendment***

26. The declarations under 37 CFR 1.132 filed 15 September 2006 are insufficient to overcome the rejection of the claims based upon 35 U.S.C. 103(a) as set forth in the last Office action because: the showing is not commensurate with the scope of the claims. While the Applicant's argue that the results of the experiments show that "the increased force between one surface and another surface causes a reduction in the damping effects", this does not overcome the rejection of the claims because the inclusion of material 64 of Rivin '304 will provide a greater damping effect than if the material was not present. The claims as currently written only require that a damping means be present, not that a certain level of damping be attained.

***Response to Arguments***

27. Applicant's arguments filed 15 September 2006 have been fully considered but they are not persuasive.

28. In response to applicant's argument that there is no suggestion to combine the references and that the combination used would destroy Rivin '304, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the combination relying upon Rivin '304



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utilizes elements that are found within a single reference, and as such the motivation to combine would not destroy the purpose of Rivin '304 as Rivin himself has utilized these elements.

29. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the present invention has "unexpectedly superior damping properties") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

30. In response to applicant's arguments that "the present invention has damping properties that are neither contemplated nor taught by either of Rivin '304 or Slocum '126" and that "Rivin '304 has poor damping tolerances", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. It is noted that nowhere in the claims is there a requirement for a certain level of damping, only that a "means for damping" be present.

31. For the reasons set forth above, the rejections are maintained.

### ***Conclusion***

32. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric A. Gates whose telephone number is 571-272-5498. The examiner can normally be reached on Monday-Thursday 7:45-6:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



EAG  
14 November 2006



MONICA CARTER  
SUPERVISORY PATENT EXAMINER